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ABSTRACT

The primary emphasis of this document is the accurate estimation of the financial need of undergraduates in Kentucky postsecondary institutions during the 1971-72 academic year. The need for an aggregate analysis of the type found in this document is twofold: (1) it presents an estimate of the total financial need that exists in an educational system; and (2) it allows the Commonwealth of Kentucky to determine areas of greatest need. To calculate the financial aid needs for a currently enrolled student in Kentucky, it is necessary to determine four factors: (1) expected student contribution or self-help, (2) expected parental contribution, (3) income distribution data for the families of the relevant group of students, and (4) expected out-of-pocket costs or total budgeted expenses for students at the institutions they plan to attend. Presented is an analysis of the financial need for undergraduates attending seven groups in Kentucky institutions--major public universities, regional public universities, four-year nonpublic colleges, two-year nonpublic colleges, community colleges, vocational-technical schools, and propriertary schools. Models are developed under three differing sets of conditions: (1) actual 1973-74 estimates; (2) 1973-74 estimations, including the potential effects of the Basic Educational Opportunity Grant Program; and (3) 1973-74 estimations based on the aspirations of educational attainment as expressed by Kentucky secondary school students. (Author/KE)

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RESEARCH REPORT

AN ANALYSIS OF THE AGGREGATE FINANCIAL NEEDS OF KENTUCKY'S POST-SECONDARY STUDENTS

ED118005

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION

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Kentucky Higher Education Assistance Authority

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Capital Plaza Office Tower
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Staff

Mr. Paul P. Borden, Executive Secretary
Mrs. Vivian Johnson, Administrative Secretary
Miss Jane Multerer, Administrative Intern

AN ANALYSIS OF THE AGGREGATE FINANCIAL NEEDS OF KENTUCKY'S POST-SECONDARY STUDENTS

November 1973

Conducted by
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of the
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COMMONWEALTH OF KENTUCKY

HIGHER EDUCATION ASSISTANCE AUTHORITY

CAPITAL PLAZA OFFICE TOWER
FRANKFORT, KENTUCKY 40601

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November 15, 1973

To Governor Wendell H. Ford

and

The General Assembly of 1973

and

The People of Kentucky:

In December, 1972, the Kentucky Higher Education Assistance Authority determined that adequate data on the financial needs and resources of Kentucky residents wishing to pursue an education beyond high school was not available. The Authority Board, therefore, directed its staff to initiate a request to the Council on Public Higher Education for the necessary funds to conduct a comprehensive study of student financial aid in Kentucky. In January, the Council reviewed, approved and funded a five-phase research project. This project, when completed, will constitute a comprehensive examination of the financial barriers to undergraduate education in Kentucky's vocational-technical, two-year and four-year, public, private and proprietary institutions.

The KHEAA has previously printed and distributed research reports pertaining to the amount and availability of post-secondary student financial aid resources and to the socioeconomic influences on the educational and career paths of Kentucky high school seniors. This volume containing the third of five interrelated research reports is entitled "An Analysis of the Aggregate Financial Needs of Kentucky's Post-Secondary Students." Subsequent phases of the research project will incorporate the data gathered in this, and the preceding research reports, into the development of model student assistance programs for Kentucky.

The Authority Board urges each reader of this and subsequent reports to become familiar with the findings, conclusions and recommendations in each volume and encourages full public discussion of the effects of existing and potential student assistance programs on the educational opportunities of Kentucky's residents. It is the hope of the Authority Board and its staff that an enlightened public discussion of the available student financial

aid resources, needs, projections, issues, trends and actual and potential events will influence the long-range planning of an optimum program of student financial aid.

This research report was prepared by the College Entrance Examination Board, a recognized authority on matters related to access to post-secondary education and, particularly, with reference to student financial aid. The findings of this study provide a basis for the further study of the effects of changes in the amount and availability of student aid resources on access to post-secondary education programs. The KHEAA is pleased to provide in this publication the entire text of the CEEB report.

Respectfully,

George P. Crounse
Chairman

PREFACE

This document represents the final Study Report for Phase IV of a five phase research program of the Higher Education Assistance Authority of the Commonwealth of Kentucky. This Report was authorized by the Higher Education Assistance Authority which engaged the Southern Regional Office of the College Entrance Examination Board under an agreement that was formally entered into on June 15, 1973, under Contract No. CT. 062119.

Stephen H. Ivens
Study Director

ACKNOWLEDGEMENTS

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Mr. Harry Weber, Spencerian College, Louisville, Kentucky; and

The Southern Regional Office of the College Entrance Examination Board professional, administrative, and secretarial staff.

STUDY STAFF

Study Supervisor:

Robert E. Stoltz, Vice-President, Southern Regional Office
College Entrance Examination Board, Atlanta, Georgia.

Study Director:

Stephen H. Ivens, Assistant Director, Southern Regional Office,
College Entrance Examination Board, Atlanta, Georgia.

Study Consultant:

Kingston Johns, Jr., Director, Southern Regional Office,
College Entrance Examination Board, Atlanta, Georgia.

Study Assistant:

Anne Kernkamp, Southern Regional Office, College Entrance
Examination Board, Atlanta, Georgia.

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PART ONE

FINANCIAL AID NEED ANALYSIS

Participation in post-high school education involves expenses and benefits which do not accrue in the same time period. The great majority of the expenses are incurred at the time a student is under instruction, while the benefits accumulate over his lifetime. Setting aside for the moment the consideration of social costs and benefits, the above circumstance suggests that an average student may require temporary assistance in paying the costs of his education beyond the high school.

This assistance may come from the student's family. In cases where the family is not able to provide such help, the student must turn either to private or public sources of financial aid. Historically, private sources of assistance have been inadequate to meet only a small part of the aggregate demand for aid funds. As a result, publicly supported aid programs for students have evolved into the primary source of financial assistance.

A form of this assistance exists in most public educational institutions in the form of a tuition subsidy. This means that the direct cost to the student at a public post-high school educational institution does not include all of the expenses of his education. However, many students are still unable to pay even the partial remaining costs. Most public financial aid programs are aimed at helping such students with these remaining costs.

The need for an aggregate analysis of the type found in this Study is twofold:

1. It presents an estimate of the total financial need which exists in an educational system;
2. It allows the Commonwealth to determine areas of greatest need so that wherever an ability to meet total aid requirements is lacking, the Commonwealth is capable of considering the most efficient use of available funds.

The Procedure for Aggregate Need Analysis

In order to calculate the financial aid needs for a currently enrolled student in Kentucky, it is necessary to determine four factors:

1. Expected student contribution or self-help. A student can himself meet some of the expenses of attending a post-secondary institution through earnings from summer or term-time jobs;
2. Expected parental contributions to meet educational expenses. These expected contributions are based upon a family's income, number of dependents, and other circumstances;
3. Income distribution data for the families of the relevant group of students;
4. Expected out-of-pocket costs or total budgeted expenses for students at the institutions they plan to attend. These

are the money costs to the student of attending a post-secondary institution and they will vary according to the type of school and whether an individual is a resident, commuter, full, or part-time student.

Applying these factors to the case of an individual student is straightforward. The student financial aid administrator at the student's institution begins with the appropriate budgeted expenses for the particular institution with adjustments for any unusual expenses unique to that student. From these he subtracts expected parental contribution, other sources of financing, and student self-help for this particular student. The result is a calculation of financial need tailored to the individual student. Some students have no demonstrable need, while others with unusual problems may have need for funds to cover all expenses.

The same procedure may be followed for students in the aggregate. Average values for student self-help and parental contribution are substituted for the particular amounts used in determining the need of individual cases. The average values for student self-help are assumed to be the same for all students. The prime determinants of parental contribution are family income and family size. Differences in family income among students are taken into account by using the observed income distribution of students' families.

For each interval in the income distribution, estimated average need per student can be calculated. Total need for the students from families in this interval of the income distribution is the product of the number of students

therein times the estimated average need per student. Aggregate need for all students is the sum of the total need for each of the intervals of the income distribution in which student self-help and expected parental contribution are less than the budgeted expenses.

Because of the large numbers of students involved and the tendency of individual differences from the averages to cancel out, the Study Staff believes that the estimating procedure results in a useful approximation of the aggregate need that would be developed if experienced financial aid administrators interviewed all students and then added together their individually tailored estimates of need to produce an aggregate estimate. Moreover, the Study Staff believes that the aggregate procedure has definite advantages because:

1. Financial aid administrators are frequently understaffed and overworked. Use of the aggregate procedure relieves them of an administrative and reporting function for a study such as this which would impede performance of their most important day to day responsibility--getting the maximum use from available financial aid resources.
2. Although the criteria and definitions of need analysis are well developed, many financial aid personnel are not formally trained and must learn the application of the techniques and use of judgement while at their work. An uneven distribution of experienced staff among institutions could

introduce biases into the Study that would not necessarily cancel out.

3. Based upon available research and in the experience of the Study Staff, there is ample reason to believe that the aggregate procedure will provide estimates of the variables included in the Study that are acceptable substitutes for the data which might be obtained from the more refined but more costly and time consuming procedure of individual need estimates.

The aggregate need analysis procedure relies upon the use of averages. Therefore, it is important to have the estimates of cost and income represent similar groups of institutions and students. Use of averages wherein the elements have widely different attributes can result in estimates of "average" need which are not typical of any of the component subgroups. For this reason, individual models have been constructed for students attending public and non-public, four- and two-year institutions, vocational-technical schools, and proprietary institutions.

THE DATA BASE

All data inputs have been calculated from the best available sources. Whenever these data or the sources of it appeared to be less than satisfactory for the purposes of the Study, adjustments were performed by the Study Staff and have been noted. For the sake of elaboration, the following is a detailed explanation of one of the models--undergraduates at the Major Universities - Public.

Number of Students - From Table IX in the 1971 edition of Kentucky College and University Enrollments, the number of full-time undergraduate students enrolled at the University of Kentucky and the University of Louisville were 15,499 and 5,631 respectively. These two figures were combined to yield 21,130 full-time undergraduates in the Major Universities - Public category. This figure was not adjusted for the approximately 15 percent of the undergraduate enrollment coming from outside the Commonwealth of Kentucky. The reason for not excluding non-resident students was that financial aid resources identified in the Phase III Study, A Survey of Student Financial Aid Resources, did not distinguish between those available for in-state students and those for out-of-state students.

Percent Male - In these calculations, data did not allow an inclusion of differential costs for males and females. Since differing amounts of student self-help are expected from males and females, it was necessary to estimate the percentage of all students who were males.

This was done by calculating the male percentage from the total males and females enrolled at the Major Universities - Public as noted in Table XVII of the 1972 edition of Kentucky College and University Enrollments. The 1971 edition did not contain a sex breakdown by institutions, however, one would doubt that the 1971 figures would have differed appreciably from those available for 1972.

Student Self-Help - The College Scholarship Service (CSS) of the College Entrance Examination Board (CEEB) estimates the following amounts of expected student self-help as savings for summer employment.

College Year	Male	Female
Freshman	$400	$300
Sophomore	$500	$400
Junior	$600	$500
Senior	$600	$500

The amounts of $500 for males and $400 for females have been used throughout the models. To the extent that the actual savings available from summer employment are less than these figures, the total financial need as determined in the following models will be an underestimate of the actual situation.

Resident and Commuter Costs - Resident and commuter costs are assumed to be the same for males and females. The values used in the models for fall 1971 were obtained from the "Institutional Application to Participate in Federal Programs of Student Financial Aid." Budget figures for fall 1973 were obtained from the Kentucky Higher Education Assistance Authority.

The budget for Major Universities - Public is a weighted average budget. This was obtained by multiplying the institution's estimated resident budget by its enrollment to establish that institution's share of the total weighted average budget. Weighted average budgets were calculated for both residents and commuters for the group of institutions involved.

Adjusted Income Distribution - The income distribution of the families of enrolled students was obtained from the "Institutional Application to Participate in Federal Programs of Student Financial Aid." These figures were also weighted by the enrollments at each institution so the total distribution would accurately reflect the combined income distribution for the group of institutions.

Percent Commuters - These estimates are calculated from information supplied by the colleges for the CEEB's College Handbook-1970 and from the information supplied on the "Institutional Application to Participate in Federal Programs of Student Financial Aid." Once again, the final values entered into the models are weighted averages across the institutions.

Parental Contributions - This has been calculated from the CSS revised Table A in the 1970 Manual for Financial Aid Officers, published by CEEB. This table may be used by aid administrators to estimate the appropriate amount of expected parents' contribution in uncomplicated cases. It is particularly well suited for use in a study such as this. The number of siblings or fraction thereof for each income interval to be used in Table A was obtained from Table 52 in General Social and Economic Characteristics-Kentucky

published by the United States Department of Commerce. The value of 3.3 siblings per family was used throughout this Study. The value of 3.3 is also in close agreement with the responses obtained from the preliminary analysis of the Phase II Study, A Survey of Post-Secondary Aspirations of Kentucky High School Students.

It should be noted that an expected contribution of $1,453 is an approxmation of the amount which would result from using the CSS Table A for $14,000 income and 3.3 siblings and is used throughout the Study for the expected parental contribution for the $12,000 and above income interval.

DEFINITION OF OTHER TERMS

Because many models are outlined in this Study, as well as different methods of estimating the sizes of the basic components in the analysis and the changes in these components over time, it is desirable to define some basic terms.

Financial Aid Need or Need - This is the amount of money required by a student or group of students to meet the cost of education. It is derived by subtracting from the cost of education those funds which students and parents can be expected to contribute. This term will usually be modified to reflect different ways of estimating parental contribution and the amount the student may contribute from self-help.

Financial Aid Resources or Resources - These are the dollars that are available to meet the financial aid needs of the students. They may be in the form of grants, loans, or jobs. The term will usually be modified to indicate the degree to which the resources are generally available to all students.

Financial Aid Deficit, Unmet Need or Gap - This is the difference between the estimated financial needs of the students and the resources that are available to meet that need. Stated another way, these are the dollars that are required or which must be produced if one is to meet fully the needs of the students.

Any number of deficit estimates can be produced, depending upon the particular estimates of resources and need which one wishes to compare. A representation of all of the possibilities would be an overwhelming task. Consequently, the Study Staff has elected to show only those deficits which seem to best reflect the present situation, the most likely future situations, or those which best illustrate the overall problem in the Commonwealth of Kentucky.

PART TWO

FINANCIAL NEED DETERMINATION: 1971-1972

This part of the Report will present an analysis of the financial need for undergraduates attending seven groups of Kentucky institutions. These seven groups are:

A. Major Universities - Public

B. Regional Universities - Public

C. Four-Year Colleges - Non-Public

D. Two-Year Colleges - Non-Public

E. Community Colleges

F. Vocational-Technical Schools

G. Proprietary Institutions

This section of the Report will involve the analysis of these seven groups for the academic year 1971-1972. Part Three of the Report will contain a similar analysis for the academic year 1973-1974, along with financial need estimations based on the effects of the Basic Education Opportunity Grants and the aspirations for educational attainment expressed by Kentucky secondary school students in a preliminary analysis of the Phase II Study.

The data input for the seven categories of institutions had the following common elements:

Average Student Self-Help - $500 per year for males
$400 per year for females

Number of Dependent Children - 3.3 per family

Income Interval	Parental Contributions
Less than $6,000	$ 0
$6,000 - $8,999	$ 210
$9,000 - $11,999	$ 820
$12,000 and above	$1,453

A. Major Universities - Public

Table A presents an estimate of financial need for undergraduate students attending the two major public four-year institutions in the Commonwealth of Kentucky. The following input data were used in addition to those already specified:

Number of Students - 21,130

Distribution by Sex - 61 percent male
39 percent female

Student Budgets - $1,898 for residents
$1,596 for commuters

Commuter Percentage - 31 percent

TABLE A

Major Universities-Public: 1971-1972

Income Interval	Percent of Students	(1) Total Budget Costs	(2) Total Parental Contribution	(3) Total Student Self-Help	(1)-[(2)+(3)] Total Need
Less than $6,000	15	$ 5,719,794	$ -	$1,461,400	$ 4,258,394
$6,000 - $8,999	20	7,625,328	887,460	1,948,200	4,789,668
$9,000 - $11,999	23	8,769,166	3,985,200	2,240,500	2,543,466
$12,000 and above	42	16,013,948	12,895,375	4,091,400	(-972,827)
TOTAL	100	$38,128,236	$17,768,035**	$9,741,500**	$11,591,528*

*Total aid needed: not affected by minus amounts.
**These figures contain contributions which exceed the amount needed by the highest income group.

In studying Table A, it is important to recognize that the total need estimate for all students of $11,591,528 does not include the minus need amount for the highest income group. The sum of the expected parental contribution and student self-help exceeds the total budget costs for the highest income group. This means that either or both the parental and student contribution may be reduced for this particular group. The implication is that the higher income families may not be required to make the equivalent proportional sacrifice, as must low income families, in order to obtain post-high school education for their children. Obviously, also, the totals for columns (2) and (3) are affected by both parental contributions and self-help figures for the highest income group shown in Table A.

B. Regional Universities - Public

The initial data input for these calculations were:

Number of Students - 30,966

Distribution by Sex - 53 percent male
47 percent female

Student Budgets - $1,685 for residents
$1,185 for commuters

Commuter Percentage - 17 percent

Table B presents the need analysis, by income level, for the undergraduates attending the six public regional universities in the Commonwealth of Kentucky.

TABLE B

Regional Universities-Public: 1971-1972

Income Interval	Percent of Students	(1) Total Budget Costs	(2) Total Parental Contribution	(3) Total Student Self-Help	(1)-[(2)+(3)] Total Need
Less than $6,000	27	$13,377,785	$ -	$ 2,787,500	$ 9,590,285
$6,000 - $8,999	26	12,881,435	1,690,710	3,647,100	7,543,625
$9,000 - $11,999	20	9,908,705	5,078,260	2,805,400	2,025,045
$12,000 and above	27	13,377,785	12,148,533	3,787,500	(-2,558,248)
TOTAL	100	$49,545,710	$18,917,503**	$14,027,500**	$19,158,955*

*Total aid needed; not affected by minus amounts.
**These figures contain contributions which exceed the amount needed by the highest income group.

C. Four-Year Colleges - Non-Public

For the academic year 1971-1972, there were 14 non-public, four-year institutions in the Commonwealth of Kentucky. The originial data for undergraduates attending these institutions were:

Number of Students - 12,838

Distribution by Sex - 50 percent male
50 percent female

Student Budgets - $2,498 for residents
$2,214 for commuters

Commuter Percentage - 35 percent

Table C contains the need analysis for the non-public, four-year institutions.

TABLE C

Four-Year Colleges-Non-Public: 1971-1972

Income Interval	Percent of Students	(1) Total Budget Costs	(2) Total Parental Contribution	(3) Total Student Self-Help	(1)-[(2)+(3)] Total Need
Less than $6,000	29	$ 8,932,216	$ -	$1,675,400	$ 7,256,816
$6,000 - $8.999	19	5,852,584	512,190	1,097,600	4,242,794
$9,000 - $11,999	20	6,164,260	2,105,760	1,155,600	2,902,900
$12,000 and above	32	9,853,392	5,968,924	1,848,600	2,035,868
TOTAL	100	$30,802,452	$8,586,874	$5,777,200	$16,438,378

One should note that unlike the first two analyses, additional financial resources are needed at the highest income interval for undergraduates at the non-public, four-year institutions. This is due to the marked differences in student budgets between the public and non-public, four-year institutions in Kentucky.

D. Two-Year College - Non-Public

The original data input for students attending the seven non-public, two-year institutions in Kentucky for the academic year 1971-1972 were:

Number of Students - 1,485

Distribution by Sex - 45 percent male
55 percent female

Student Budgets - $2,323 for residents
$1,772 for commuters

Commuter Percentage - 35 percent

The need analysis for the non-public, two-year institutions in Kentucky is contained in Table D.

TABLE D

Two-Year Colleges-Non-Public: 1970-1971

Income Interval	Percent of Students	(1) Total Budget Costs	(2) Total Parental Contribution	(3) Total Student Self-Help	(1)-[(2)+(3)] Total Need
Less than $6,000	57	$1,804,485	$ -	$376,500	$1,427,985
$6,000 - $8,999	23	728,346	71,820	152,200	504,326
$9,000 - $11,999	11	347,242	133,660	72,500	141,082
$12,000 and above	9	285,385	194,702	59,600	31,083
TOTAL	100	$3,165,458	$400,182	$660,800	$2,104,476

E. Community Colleges

The original data for students attending community colleges in Kentucky during the academic year 1971-1972 were:

Number of Students - 6,622

Distribution by Sex - 49 percent male
51 percent female

Student Budgets - $1,650 for residents
$1,100 for commuters

Commuter Percentage - 95 percent

Table E presents the need analysis based on the above data. The 95 percent commuter was an estimate by the Study Staff in the absence of official data. In the event that 100 percent of the students were commuters, the total need in Table E should be reduced by $182,050.

TABLE E

Community Colleges: 1971-1972

Income Interval	Percent of Students	(1) Total Budget Costs	(2) Total Parental Contribution	(3) Total Student Self-Help	(1)-[(2)+(3)] Total Need
Less than $6,000	18	$1,344,200	$ --	$ 535,200	$ 809,000
$6,000 - $8,999	28	2,090,550	389,340	832,400	868,810
$9,000 - $11,999	21	1,568,600	1,140,620	624,600	(-196,620)
$12,000 and above	33	2,463,450	3,174,805	981,100	(-1,692,455)
TOTAL	100	$7,466,800	$4,704,765**	$2,973,300**	$1,677,810*

*Total aid needed: not affected by minus amounts.

**Total figures contain contributions which exceed the amount needed by the two highest income groups.

The average need per student of $253 ($1,677,810 ÷ 6,622) at the community colleges is considerably lower than the corresponding figures of $548 and $618 for students at the major public universities and regional public universities, respectively. This is primarily a reflection of the reportedly less expensive cost at community colleges. As one can note from Table E, only families with incomes below $9,000 show a net total need.

F. Vocational-Technical Schools

The original input data for the vocational-technical schools were:

Number of Students - 7,639

Distribution by Sex - 71 percent male
29 percent female

Student Budgets - $1,989 for residents
$1,439 for commuters

Commuter Percentage - 95 percent

The need analysis based on these data is presented in Table F. As was the case with the community college analysis (Table E), the 95 percent commuter value was a Study Staff estimate. In the event that this figure should have been 100 percent, the total need presented in Table F should be reduced by $210,100.

TABLE F

Vocational-Technical Schools

Income Interval	Percent of Students	(1) Total Budget Costs	(2) Total Parental Contribution	(3) Total Student Self-Help	(1)-[(2)+(3)] Total Need
Less than $6,000	34	$ 3,808,583	$ -	$1,223,200	$2,585,383
$6,000 - $8,999	23	2,576,723	368,970	827,500	1,380,253
$9,000 - $11,999	21	2,352,156	1,315,280	755,500	281,376
$12,000 and above	22	2,465,159	2,442,493	791,800	(-769,134)
TOTAL	100	$11,202,621	$4,126,743**	$3,598,000**	$4,247,012*

*Total aid needed; not affected by minus amounts.

**These figures contain contributions which exceed the amount needed by the highest income group.

G. Proprietary Institutions

The category "Proprietary Institutions" includes, for example, business colleges, private trade schools, and Bible colleges. The input data for students attending these types of institutions during the academic year 1971-1972 were:

Number of Students - 2,996

Distribution by Sex - 35 percent male
65 percent female

Student Budgets - $2,495 for residents
$2,084 for commuters

Commuter Percentage - 80 percent

The student budgets given above are based on nine-months even though many programs offered by these institutions are of 6, 9, 11, or 22 months duration. The Study Staff selected a nine-month budget parameter in order to be consistent with all previous analyses in the Study, as well as to accommodate comparisons across institutional groups. The need analysis for proprietary institutions is presented in Table G.

TABLE G

Proprietary Institutions: 1971-1972

Income Interval	Percent of Students	(1) Total Budget Costs	(2) Total Parental Contribution	(3) Total Student Self-Help	(1)-[(2)+(3)] Total Need
Less than $6,000	36	$2,337,412	$	$ 469,400	$1,868,012
$6,000 - $8,999	33	2,142,454	207,690	430,200	1,504,564
$9,000 - $11,999	19	1,232,650	466,580	247,500	518,570
$12,000 and above	12	779,832	523,080	156,600	100,152
TOTAL	100	$6,492,348	$1,197,350	$1,303,700	$3,991,298

Summary

Before discussing the tables in this section it is important to emphasize again that the estimates included throughout this Report may be altered with any change in the variables upon which they are based. The estimates represent the best judgments of the Study Staff and advice received from various authorities concerned with post-high school education in the Commonwealth of Kentucky.

Table II-1 offers a review of the total need for the seven groups of institutions analyzed. The Kentucky total need for the seven institutional groups is $59.2 million. It is interesting to note that the Phase III Report, "A Survey of Student Financial Aid Resources," found nearly $67.5 million in available student aid funds, which represents $8.3 million more than the demonstrated need. Why then does Kentucky have a financial aid problem?

The problem results from the nature of the available aid dollars reported in the Phase III Report. That Report noted that $17.8 million of the $67.5 million to be generally available on the basis of need. The precise definition of "generally available funds" is "unrestricted funds generally, but not completely, based upon need, for which the largest number of applicants can qualify and from which the largest number may receive assistance." The $59.2 million of aid needed, minus the $17.8 million of aid generally available, leaves $41.4 million in unmet need for Kentucky.

TABLE II-1

Summary of Total Need Estimates of Undergraduates by Type of Institution in Kentucky for 1971-1972

Student Group	Table	Total Need
Major Universities-Public	A	$11,591,528
Regional Universities-Public	B	19,158,955
Four-Year Colleges-Non-Public	C	16,438,378
Two-Year Colleges-Non-Public	D	2,104,476
Community Colleges	E	1,677,810
Vocational-Technical Schools	F	4,247,012
Proprietary Institutions	G	3,991,298
Kentucky Total		$59,209,457

Total need estimates by type of institutional control are presented in Table II-2. It may be noted that 62 percent of the total aid gap is for students at public institutions (colleges and universities, community colleges, and vocational-technical schools); 31 percent of the total aid gap is for private institutions (colleges, universities, and junior colleges); and seven percent of the gap is for students at proprietary institutions. These percentages are, of course, functions of the estimated values in the original models.

TABLE II-2

Total Undergraduate Need Estimates by Type of Institutional Control in Kentucky for 1971-1972

Type of Institutional Control	Total Need	
Public Four-Year	$30,750,483	
Public Two-Year	5,924,822	
Total Public		$36,675,305
Private Four-Year	$16,438,378	
Private Two-Year	2,104,476	
Total Private		$18,542,854
Proprietaries	$ 3,991,298	
Kentucky Total		$59,209,457

Table II-3 is a summary of the need gap, by income level, for the seven institutional categories in the Study. The numbers are presented in terms of absolute amounts and as percents of the total aid needed within each income interval. It may be seen that almost one-half of all estimated need is in the family income interval below $6,000. It is, however, equally important to note that the income classes, $6,000 to $11,999, contain 49.4 percent of the total aid need gap. Thus, financial aid problems are, as many parents have emphatically indicated, not restricted to the very poor in our society.

In Table II-4, the column entitled "Average amount of assistance required by students who demonstrate need" represents the size of an award necessary to satisfy the average student who needs financial aid. It is calculated by taking the total need figure for a study group and dividing it by the number of students who are in income classes with a positive need figure. For students at major public universities, the total need of $11,591,523 would be divided by 12,256 which is the number of students in the income intervals below $12,000. Student in the highest income interval would not be included because they did not show financial need. The result is an <u>average</u> aid award needed of $946.

The material in this section is presented in great detail in order to facilitate its maximum utilization. In order to maintain figures in a form adaptable to further analysis, they have not been rounded. The lack of rounding does not imply that the figures are assumed to be accurate to the single dollar. The percentages are, once again, functions of the assumed values in the original models.

TABLE II-3

Need Gaps by Types of Institutions and Income Levels: 1971-1972

Type of Institution	Income Intervals				Total
	Less than $6,000	$6,000 to $8,999	$9,000 to $11,999	$12,000 and above	
Major Universities-Public	$ 4,253,394	$ 4,789,668	$2,543,466	$ --	$11,591,528
Regional Universities-Public	9,590,285	7,543,625	2,025,045	--	19,158,955
Four-Year Colleges-Non-Public	7,256,816	4,242,794	2,902,900	2,035,868	16,438,378
Two-Year Colleges-Non-Public	1,427,985	504,326	141,082	31,083	2,104,476
Community Colleges	809,000	868,810	--	--	1,677,810
Vocational-Technical Schools	2,585,383	1,380,253	281,376	--	4,247,012
Proprietary Institutions	1,868,012	1,504,564	518,570	100,152	3,991,298
Total	$27,795,875	$20,834,040	$8,412,439	$2,167,103	$59,209,457
Percent of Total	46.9	35.2	14.2	3.7	100.0

TABLE II-4

Undergraduate Per Student Financial Need in Kentucky
for 1971-1972 by Type of Institution

Type of Institution	Income Interval				Average Amount of Aid Required by Students who Demonstrate Need
	Less than $6,000	$6,000 to $8,999	$9,000 to $11,999	$12,000 and above	
Major Universities-Public	$1,343	$1,133	$ 523	$ --	$ 946
Regional Universities-Public	1,147	936	326	--	848
Four-Year Colleges-Non-Public	1,949	1,739	1,130	495	1,280
Two-Year Colleges-Non-Public	1,687	1,474	865	231	1,417
Community Colleges	678	468	--	--	551
Vocational-Technical Schools	995	786	175	--	713
Proprietary Institutions	1,731	1,521	911	278	1,331

Part Three of this Report will contain similar need analyses for the academic year 1973-1974, along with estimations based on the effects of the Basic Education Opportunity Grants and the aspirations for educational attainment expressed by Kentucky secondary school students as determined from preliminary analyses of the Phase II Study.

PART THREE

PROJECTED FINANCIAL NEED: 1973-1974

The primary emphasis of this Report has been the accurate estimation of the financial need for undergraduates in Kentucky post-secondary institutions during the 1971-1972 academic year. The academic year 1971-1972 is important as a baseline because the Phase III Report dealt with financial aid resources that were available during that academic year.

Although total financial aid resources are not available for the 1973-1974 academic year, and some of the student input data are projections, the Study Staff believes useful information can be obtained from financial need analyses for the 1973-1974 academic year. One should be cautioned, however, to regard to the following as models based on the best information available and on the judgment of the Study Staff.

Models for this section of the Report will be developed under three differing sets of conditions: actual 1973-1974 estimations; 1973-1974 estimations including the potential effects of the Basic Education Opportunity Grant Program; and 1973-1974 estimations based on the aspirations for educational attainment as expressed by Kentucky secondary school students in the Phase II Study.

A. Actual 1973-1974 Estimations

The financial need analyses presented in this part of the Report will be based on the same seven types of post-secondary institutions that were previously used. In each analysis, the expected student self-help, the commuter percentage, the income distributions, and the male percentage are unchanged from the corresponding analysis for the 1971-1972 academic year.

The expected parental contribution has been revised in accordance with Table F in CSS Need Analysis: Theory and Computation Procedures for the 1973-74 PSC and SFS. As before, 3.3 dependent siblings per family was used in the determination of expected parental contribution. The following values were used for all seven groups of institutions:

Income Interval	Parental Contribution
Less than $6,000	$ 0
$6,000 - $8,999	118
$9,000 - $11,999	927
$12,000 and above	1,507

Table III-1 presents the other modifications to the 1971-1972 input data to reflect conditions for the 1973-1974 academic year.

TABLE III-1

Undergraduate Enrollments and Budgets: 1973-1974

Type of Institution	Number of Students	Resident Budget	Commuter Budget
Major Universities-Public	22,661	$2,122	$1,588
Regional Universities-Public	32,914	1,864	1,502
Four-Year Colleges-Non-Public	12,836	2,685	2,394
Two-Year Colleges-Non-Public	1,832	2,577	1,910
Community Colleges	7,150	1,650	1,100
Vocational-Technical Schools	10,194	2,189	1,639
Proprietary Institutions	3,912	3,593	2,796

The financial need gaps based on these input data are presented in Table III-2 by income level and by type of institution.

The total need shown in Table III-2 represents a $19 million increase over the total need estimated for the 1971-1972 academic year. Although the need is greater in each of the income intervals, the proportional need between intervals is approximately the same. As was the case in 1971-1972, 96 percent of the total estimated need is contained in the income intervals below $12,000.

Table III-3 presents the average amount of assistance required by students who demonstrate need. These values were calculated by taking the total need figure for a study group and dividing it by the number of students who are in income levels with a positive need figure. For students at major public universities, the total need of $14,288,196 would be divided by 13,143 rather than the total number of students since students in the highest income interval showed no need. The result is an average aid award needed of $1,087.

TABLE III-2

Need Gaps by Types of Institutions and Income Intervals: 1973-1974

Type of Institutions	Income Intervals				Total
	Less than $6,000	$6,000 to $8,999	$9,000 to $11,999	$12,000 and above	
Major Universities-Public	$ 5,082,942	$ 6,242,558	$ 2,962,696	$ --	$14,288,196
Regional Universities-Public	11,992,586	10,538,758	2,781,093	--	25,312,437
Four-Year Colleges-Non-Public	7,944,576	4,917,484	3,098,953	2,572,166	18,533,179
Two-Year Colleges-Non-Public	1,982,333	749,890	196,043	64,464	2,992,730
Community Colleges	873,000	1,122,064	--	--	1,995,064
Vocational-Technical Schools	4,143,424	2,526,595	574,842	--	7,244,861
Proprietary Institutions	3,549,022	3,101,324	1,184,220	475,459	8,310,025
Total	$35,567,883	$29,198,673	$10,797,847	$3,112,089	$78,676,492
Percent of Total	45.2	37.1	13.7	4.0	100.0

TABLE III-3

Undergraduate Per Student Financial Need in Kentucky
for 1973-1974 by Type of Institution

Type of Institution	Income Interval				Average Amount of Aid Required by Students who Demonstrate Need
	Less than $6,000	$6,000 to $8,999	$9,000 to $11,999	$12,000 and above	
Major Universities-Public	$1,495	$1,377	$ 568	$ --	$1,087
Regional Universities-Public	1,349	1,231	422	--	1,053
Four-Year Colleges-Non-Public	2,134	2,016	1,207	626	1,443
Two-Year Colleges-Non-Public	1,898	1,781	970	390	1,633
Community Colleges	678	560	--	--	607
Vocational-Technical Schools	1,195	1,077	268	--	911
Proprietary Institutions	2,520	2,402	1,593	1,013	2,124

B. Effects of Basic Education Opportunity Grants

The Basic Education Opportunity Grant Program (BEOG) is the most recent federal program of financial assistance for students continuing their education beyond secondary school. The BEOG is an entitlement and is intended to provide a "floor" of grant aid for the student. For the academic year 1973-1974, the total program funding is $122.1 million. In that this figure was considerably less than the $622 million originally requested by the administration and dramatically less than some estimates of more than one billion dollars needed to fully fund the program, eligibility for BEOG entitlements was limited to first-time, full-time freshmen enrolling in eligible programs at eligible institutions of post-secondary education.

According to the United States Office of Education, approximately 300,000 students across the country have applied for grants as of the date of this Report. Of these 300,000 applicants, approximately 40 percent of them are eligible to receive some financial aid. In addition, the Office of Education reported that only 67 percent of the eligible institutions in the nation had returned the contracts necessary to participate in the program. Because of the conditions just cited, the effects of the BEOG program in Kentucky will probably be negligible this year. Assuming, however, that all eligible students apply and that all eligible institutions in Kentucky participate, the following analysis reflects the maximum amount of BEOG entitlements that could reasonably be expected for the Commonwealth.

The analysis of BEOG effects is based on the 1973-1974 academic year determinations previously presented. The original input data are

unchanged from those used in the calculations that produced the need gap in Table III-2. The undergraduate enrollments projected for 1973-1974 by type of institution is repeated below along with an estimation of the number of first-time, full-time freshmen.

Type of Institution	Undergraduate Enrollment	Full-Time, First-Time Freshmen
Major Universities-Public	22,661	6,118
Regional Universities-Public	32,914	12,178
Four-Year Colleges-Non-Public	12,836	3,979
Two-Year Colleges-Non-Public	1,832	1,209
Community College	7,150	5,362
Vocational-Technical Schools	10,194	7,136
Proprietary Institutions	3,912	2,347

As published in the September 10 issue of The Chronicle of Higher Education, the Office of Education estimates that the following average grants will be awarded to eligible students within the given income intervals:

Income Interval	Average BEOG Entitlement
Less than $6,000	$454
$6,000 - $8,999	417
$9,000 - $11,999	101
$12,000 and above	0

Table III-4 presents the maximum estimated BEOG entitlements that could be given to students attending Kentucky post-secondary institutions during the 1973-1974 academic year.

TABLE III-4

Total BEOG Entitlement Estimations by Types of Institutions and Income Levels

Type of Institutions	Income Intervals* Less than $6,000	$6,000 to $8,999	$9,000 to $11,999	Total
Major Universities-Public	$ 414,936	$ 510,408	$142,107	$1,067,451
Regional Universities-Public	1,486,176	1,320,222	246,036	3,052,434
Four-Year Colleges-Non-Public	521,608	315,252	80,396	917,256
Two-Year Colleges-Non-Public	311,428	115,926	13,433	440,787
Community Colleges	436,180	625,917	113,726	1,175,823
Vocational-Technical Schools	1,096,552	684,297	151,399	1,932,248
Proprietary Institutions	381,940	323,175	45,046	750,161
Total	$4,648,820	$3,895,197	$792,143	$9,336,160

*The interval $12,000 and above has been deleted because the Office of Education has stated that entitlements are not expected to be given if the income is above $11,000.

The total estimated value of BEOG entitlements presented in Table III-4 of $9,336,160 is the maximum estimated value if all eligible students apply and all eligible institutions participate. For comparison purposes, this value would be an approximate $2.2 million if the total BEOG appropriation, minus administrative costs, were divided equally among the 50 states. Although the rationale behind the equal state allocation is unrealistic, the $2.2 million is probably a closer approximation for the Commonwealth of Kentucky than the $9.3 million figure.

C. Effects of Educational Aspirations of Kentucky Students

The Phase II Study of the Kentucky Higher Education Assistance Authority (KHEAA) assessed the post-secondary aspirations of Kentucky high school students. Preliminary analyses from the KHEAA showed that 67.8 percent of the responding seniors indicated they intended to continue their education. The 67.8 percent were distributed as follows: 47.5 percent to colleges in Kentucky; 8.1 percent to colleges outside of Kentucky; and 12.2 percent to trade or technical schools.

From the Kentucky State Department of Education publication Holding Power and Graduates, February 1973, the secondary school students who graduated in May 1972 continued their education as follows: 36.4 percent to colleges in Kentucky; 4.8 percent out-of-state; and 7.6 percent to trade or technical schools. The difference between the actual distribution of the class of 1972, and the aspirations of the sample of the class of 1973 amount to a

hypothetical 11 percent increase in college enrollments in Kentucky and a five percent increase in trade or technical school enrollments.

If the aspirations of the Phase II respondents are to be realized, an additional demand for financial aid would be present. Based on the financial need values presented in Table III-2, an 11 percent increase at the public and non-public, four- and two-year institutions in Kentucky would create a total need of $70,064,983. Similarly, a five percent increase at the vocational-technical schools and proprietary institutions would create a total need of $16,332,660. Thus, the total financial need in the Commonwealth of Kentucky would increase from approximately $78.7 million to $86.4 million.

D. Summary

As stated earlier, the analyses presented in Part III of this Report were based on the best information available to the Study Staff at the time of the Report. It is important to emphasize again that the estimates included throughout this Report may be altered with any change in the variables upon which they are based.

In Part II of this Report, the Kentucky total need for undergraduates in the seven institutional groups was estimated to be $59.2 million. In the Phase III Report, "A Survey of Student Financial Aid Resources," the total financial aid resources were estimated to be $67.5 million of which $17.8 million was generally available for students on the basis of need.

The corresponding total need for the academic year 1973-1974 was estimated to be $78.7 million, an increase of approximately $19.5 million

over a two year period. This $19.5 million represents a 33 percent increase in total need even though the corresponding increase in undergraduate enrollment was estimated to be only nine percent.

The Basic Education Opportunity Grant Program for the academic year 1973-1974 was estimated to have only a marginal effect on Kentucky students. If all eligible students apply and if all eligible institutions participate, the maximum value of the BEOG entitlements would be $9.3 million. In fact, only 67 percent of the eligible institutions and 40 percent of the eligible students have been estimated as participating as of the date of this Report. Multiplying the $9.3 million by these two percentages, 67 and 40, would reduce the value of the BEOG entitlements to $2.5 million--a more realistic figure in the opinion of the Study Staff.

It is well known that a lack of financial ability to pay has been a major barrier for students who want to continue their education beyond high school. If all students had continued their education in proportion to the results of the Phase II Study in Kentucky, the total estimated financial need for 1973-1974 would have been $86.4 million, an increase of approximately $7.7 million over the previously estimated need.